

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

**STATEMENT OF UNDISPUTED MATERIAL FACTS IN SUPPORT OF
PLAINTIFF'S MOTION FOR PARTIAL SUMMARY JUDGMENT
OF NO INVALIDITY UNDER 35 U.S.C. § 101**

Pursuant to Fed. R. Civ. P. 56 and Local Rule 56-2, plaintiff, Singular Computing LLC (“Singular”), submits the following Statement of Undisputed Material Facts in support of its motion for partial summary judgment of no invalidity under 35 U.S.C. § 101.

No.	Statement of Fact	Supporting Evidence
1.	Singular is the owner, by assignment of U.S. Patent No. 8,407,273 (“the ’273 patent”).	Amended Complaint, ¶¶ 27-28; U.S. Patent No. 8,407,273 (Dkt. No. 112-2).
2.	Singular is the owner, by assignment of U.S. Patent No. 9,218,156 (“the ’156 patent”).	Amended Complaint, ¶¶ 27-28; U.S. Patent No. 9,218,156 (Dkt. No. 112-3).
3.	On March 31, 2021, the Court issued an memorandum and Order denying Defendant’s Motion to Dismiss.	Dkt. No. 51.
4.	On July 27, 2022, the Court issued a Memorandum and Order on Claim Construction.	Dkt. No. 354.
5.	Claim 53 of the ’273 patent recites the following: A device: comprising at least one first low precision high-dynamic range (LPHDR) execution unit adapted to execute a first operation on	’273 patent.

No.	Statement of Fact	Supporting Evidence
	<p>a first input signal representing a first numerical value to produce a first output signal representing a second numerical value,</p> <p>wherein the dynamic range of the possible valid inputs to the first operation is at least as wide as from 1/1,000,000 through 1,000,000 and for at least $X=5\%$ of the possible valid inputs to the first operation, the statistical mean, over repeated execution of the first operation on each specific input from the at least $X\%$ of the possible valid inputs to the first operation, of the numerical values represented by the first output signal of the LPHDR unit executing the first operation on that input differs by at least $Y=0.05\%$ from the result of an exact mathematical calculation of the first operation on the numerical values of that same input;</p> <p>wherein the number of LPHDR execution units in the device exceeds by at least one hundred the non-negative integer number of execution units in the device adapted to execute at least the operation of multiplication on floating point numbers that are at least 32 bits wide.</p>	
6.	<p>Claim 7 of the '156 patent recites the following:</p> <p>A device comprising:</p> <p>at least one first low precision high-dynamic range (LPHDR) execution unit adapted to execute a first operation on a first input signal representing a first numerical value to produce a first output signal representing a second numerical value,</p> <p>wherein the dynamic range of the possible valid inputs to the first operation is at least as wide as from 1/1,000,000 through 1,000,000 and for at least $X=5\%$ of the possible valid inputs to the first operation, the statistical mean, over repeated execution of the first operation on each</p>	'156 patent.

No.	Statement of Fact	Supporting Evidence
	<p>specific input from the at least X % of the possible valid inputs to the first operation, of the numerical values represented by the first output signal of the LPHDR unit executing the first operation on that input differs by at least $Y=0.05\%$ from the result of an exact mathematical calculation of the first operation on the numerical values of that same input;</p> <p>at least one first computing device adapted to control the operation of the at least one first LPHDR execution unit;</p> <p>wherein the at least one first computing device comprises at least one of a central processing unit (CPU, a graphics processing unit (GPU), a field programmable gate array (FPGA), a microcode-based processor, a hardware sequencer, and a state machine; and,</p> <p>wherein the number of LPHDR execution units in the device exceeds by at least one hundred the non-negative integer number of execution units in the device adapted to execute at least the operation of multiplication on floating point numbers that are at least 32 bits wide.</p>	

Dated: April 28, 2023

Respectfully submitted,

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ATTORNEYS FOR THE PLAINTIFF

CERTIFICATE OF SERVICE

I certify that on April 28, 2023, all counsel of record who have consented to electronic service are being served with a copy of this documents via the Court's CM/ECF system.

/s/ Paul J. Hayes